

separable contacts;  
 a first terminal electrically interconnected with a first one of said

separable contacts;  
 a second terminal electrically connected to a second one of said

an electrically conductive support mechanism mounted in said housing  
 and supporting said operating mechanism, and

a bimetal overcurrent assembly responsive to selected conditions of  
 current flowing through said separable contacts for actuating said operating mechanism to  
 trip open said separable contacts, said bimetal overcurrent assembly having first and second  
 legs and a free intermediate section which deflects in response to said selected conditions of  
 current to actuate said operating mechanism, with the first leg engaging and being electrically  
 connected to said support mechanism, with the second leg electrically connected to said first  
 terminal, and with said support mechanism electrically interconnected with said first one of  
 said separable contacts. --.

### In the Specification:

Replace page 1, lines 3-9, as follows:

-- This application is related to commonly assigned, concurrently filed United  
 States Patent Application Serial No. 09/845,943, filed April 30, 2001, entitled "Circuit  
 Breaker Having A Movable And Illuminable Arc Fault Indicator"; and United States Patent  
 Application Serial No. 09/845,517, filed April 30, 2001, entitled "Circuit Breaker Including  
 An Arc Fault Trip Actuator Having An Indicator Latch And A Trip Latch". --.

### REMARKS

Claims 9-12 and 21 are pending.

The specification has been amended at page 1, lines 3-9, to provide application  
 serial numbers and filing dates, and to eliminate attorney docket numbers, for two related  
 applications. A marked up version of the specification is attached.

Although not objected to by the Examiner, a Proposed Drawing Amendment is  
 attached for Figure 5, in order to show the "indicator portion 99" consistent with Figure 3. It  
 is requested that any requirement for a replacement formal drawing for Figure 5 be deferred  
 until after a Notice of Allowance is issued.

Claim 21 has been added. See, for example, Claims 9 and 12; Figures 1 and 2,  
 and the corresponding disclosure. It is submitted that no fee is due. In the event that any

additional claim fee is due, then it is requested that this fee be charged to Deposit Account No. 05-0275.

### **OBJECTIONS TO THE SPECIFICATION**

The Examiner objects to the specification because of informalities including missing serial numbers and filing dates, and the references to attorney docket numbers of related cases.

The specification has been amended to provide application serial numbers and filing dates and to eliminate attorney docket numbers for the two related applications. With this amendment, it is submitted that the objection to the specification has been overcome.

### **REJECTIONS UNDER 35 USC § 112, ¶2**

The Examiner rejects Claims 9-12 under Section 112, ¶2, as being indefinite.

With respect to Claim 9, the Examiner states that Applicants should clarify:

(1) the specific connection arrangement of the legs to the support mechanism; (2) the connection of the support mechanism to the terminal; and (3) the interconnection between one of the separable contacts.

Claim 9 recites, *inter alia*, a first terminal electrically interconnected with a first one of the separable contacts; a second terminal electrically connected to a second one of the separable contacts; an electrically conductive support mechanism mounted in the housing; and a bimetal overcurrent assembly responsive to selected conditions of current flowing through the separable contacts for actuating the operating mechanism to trip open the separable contacts, the bimetal overcurrent assembly having first and second legs and a free intermediate section which deflects in response to the selected conditions of current to actuate the operating mechanism, with the first leg engaging and being electrically connected to the support mechanism, with the second leg electrically connected to the first terminal, and with the support mechanism electrically interconnected with the first one of the separable contacts.

With respect to the Examiner's first point, it is submitted that it is clear that the first leg of the bimetal overcurrent assembly engages and is electrically connected to the support mechanism. The second leg of the bimetal overcurrent assembly is electrically connected to the first terminal.

As to the Examiner's second point, it is noted that the electrically conductive support mechanism is mounted in the housing, the first terminal is electrically interconnected with the first one of the separable contacts, the second terminal is electrically connected to the second one of the separable contacts, and the support mechanism is electrically interconnected with the first one of the separable contacts. Hence, it is clear that the first

terminal is electrically interconnected with the first one of the separable contacts, which is also electrically interconnected with the support mechanism.

Finally, it is submitted that it is clear that the support mechanism is electrically interconnected with the first one of the separable contacts.

The Examiner further states, with respect to Claim 9, that there is no antecedent basis for said "first one of said separable contacts".

Lines 6 and 7 of Claim 9 recite a first terminal electrically interconnected with a "first one of said separable contacts". Accordingly, it is submitted that there is antecedent basis for said "first one of said separable contacts".

It is submitted that Claim 9 is definite and passes muster under Section 112, ¶2.

Claims 10-12 depend from Claim 9 and pass muster under Section 112, ¶2 for the same reasons.

#### **REJECTIONS UNDER 35 USC § 103(a)**

The Examiner rejects Claim 9<sup>1</sup> on the ground of being unpatentable over U.S. Patent No. 6,040,747 (Krasser et al.) in view of U.S. Patent No. 6,307,460 (Yu).

Krasser et al. discloses an overcurrent circuit breaker (Figures 4, 7 and 8) including a housing 1, fixed contacts 14,15 having respective contact points 16,17, a contact bridge 13 carried by a contact bridge support 20, contact connections 7 (current input) and 8 (current output), and a bimetal 38. The bimetal 38 is bent into a U shape and points upward (Figures 7 and 8) with a connecting web 56 between two U-shaped legs 57,58. As shown in Figure 7, the one U-shaped leg 57 is connected to the base element 22 or the pedestal part 76 of the fixed contact 15, which is assigned to the current output. The other U-shaped leg 58 is welded with its end to the contact connection 8, which is assigned to the current output. Under the effects of an overcurrent, the U-shaped arc or the U-shaped connecting web 56 of the bimetal 38 bends outward (in clockwise direction relative to the places where U-shaped legs 57,58 are clamped in Figure 8, which is away from the contact bridge support 20), in order to release an interlocking cam 37 of the contact bridge support 20 from the detent opening 55 of the bimetal 38. An adjustment screw 63 acts upon the base element 22 of the fixed contact 15 in the current leakage range and, thus, causes the adjustment movement of the bimetal 38.

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<sup>1</sup> It is submitted that the Examiner intends to reject only Claim 9 in paragraph 5 of page 3 of the Office Action, since paragraph 6, page 4 of the Office Action states that Claims 10-12 would be allowable if rewritten to overcome the rejections under Section 112 and to include all of the limitations of the base claim.

Yu discloses a power switch device including a switch box 20 housing an inverted U-shaped bimetal plate 40 having one end with two legs and another pushing end 41. First and second terminal plates 25,26 extend from the switch box 20. One of the bimetal legs is connected to the first terminal plate 25. The other bimetal leg is connected to a first end of a conduct plate 60. A first conduct point 261 is connected to the second terminal plate 26. A second conduct point 62 is connected to a second end of the conduct plate 60. When the electric circuit is overloaded, the pushing end 41 of the bimetal plate 40 is thermally deformed to push hook 582 of engaging member 58 away from the rounded top of block 22.

Claim 9 recites, *inter alia*, a circuit breaker comprising: a housing; a pair of separable contacts mounted in the housing; an operating mechanism for opening and closing the separable contacts; a first terminal electrically interconnected with a first one of the separable contacts; a second terminal electrically connected to a second one of the separable contacts; an electrically conductive support mechanism mounted in the housing; and a bimetal overcurrent assembly responsive to selected conditions of current flowing through the separable contacts for actuating the operating mechanism to trip open the separable contacts, the bimetal overcurrent assembly having first and second legs and a free intermediate section which deflects in response to the selected conditions of current to actuate the operating mechanism, with the first leg engaging and being electrically connected to the support mechanism, with the second leg electrically connected to the first terminal, and with the support mechanism electrically interconnected with the first one of the separable contacts.

The Examiner states in paragraph 5, page 3 of the Office Action that Krasser et al. discloses "an electrically conductive support mechanism [38, figure 4] mounted in the housing" and "a bimetal [56, figure 7]". This statement is respectfully traversed as applied to the refined recital of Claim 9.

As set forth in column 6, lines 11-28 of Krasser et al., the bimetal 38 is bent into a U shape with a connecting web 56 between two U-shaped legs 57,58. Under the effects of an overcurrent, the "U-shaped arc or the U-shaped connecting web 56 of the bimetal 38" bends outward in order to release an interlocking cam 37 of the contact bridge support 20 from the detent opening 55 of the bimetal 38. Hence, it is submitted that the reasonable position is that Krasser et al. teaches and suggests a bimetal 38 having a connecting web 56 between two U-shaped legs 57,58. It is submitted that Krasser et al. does not teach or suggest an electrically conductive support mechanism mounted in a housing, with a first leg of a bimetal engaging and being electrically connected to such support

mechanism, and with such support mechanism being electrically interconnected with a first one of separable contacts.

It is not clear which pair of contacts of Krasser et al. the Examiner construes to be "separable" within the context of Claim 9. The movable contact bridge 13 is separable from the contact points 16,17 of the respective fixed contacts 14,15 of Krasser et al. Hence, if the Examiner selects either: (1) contact bridge 13 and contact point 16; or (2) contact bridge 13 and contact point 17 as being the recited separable contacts of Claim 9, then, in either case, Krasser et al. does not teach or suggest a first terminal electrically interconnected with a first one of *separable* contacts and a second terminal electrically connected to a second one of such *separable* contacts.

It is submitted that Yu, which discloses one bimetal leg connected to a terminal plate 25 and another bimetal leg connected to a first end of a conduct plate 60, adds nothing to Krasser et al. regarding any electrically conductive support mechanism mounted in a housing, with a first leg of a bimetal engaging and being electrically connected to such support mechanism, and with such support mechanism being electrically interconnected with a first one of separable contacts.

Accordingly, it is submitted that Claim 9 patentably distinguishes over the references.

Claims 10-12 depend from Claim 9. Since the rejections under Section 112, ¶2, have been dealt with, it is submitted that these claims are in condition for allowance.

Newly added Claim 21 is an independent claim, which recites, *inter alia*, a circuit breaker comprising: a housing; a pair of separable contacts mounted in the housing; an operating mechanism for opening and closing the separable contacts; a first terminal electrically interconnected with a first one of the separable contacts; a second terminal electrically connected to a second one of the separable contacts; an electrically conductive support mechanism mounted in the housing and supporting the operating mechanism; and a bimetal overcurrent assembly responsive to selected conditions of current flowing through the separable contacts for actuating the operating mechanism to trip open the separable contacts, the bimetal overcurrent assembly having first and second legs and a free intermediate section which deflects in response to the selected conditions of current to actuate the operating mechanism, with the first leg engaging and being electrically connected to the support mechanism, with the second leg electrically connected to the first terminal, and with the support mechanism electrically interconnected with the first one of the separable contacts.

The Examiner states in paragraph 5, page 3 of the Office Action that Krasser et al. discloses "an electrically conductive support mechanism [38, figure 4] mounted in the housing" and "a bimetal [56, figure 7]". This statement is respectfully traversed as applied to the refined recital of Claim 21.

As set forth in column 6, lines 11-28 of Krasser et al., the bimetal 38 is bent into a U shape with a connecting web 56 between two U-shaped legs 57,58. Under the effects of an overcurrent, the "U-shaped arc or the U-shaped connecting web 56 of the bimetal 38" bends outward in order to release an interlocking cam 37 of the contact bridge support 20 from the detent opening 55 of the bimetal 38. Hence, it is submitted that the reasonable position is that Krasser et al. teaches and suggests a bimetal 38 having a connecting web 56 between two U-shaped legs 57,58. It is submitted that Krasser et al. does not teach or suggest an electrically conductive support mechanism mounted in a housing, with a first leg of a bimetal engaging and being electrically connected to such support mechanism, and with such support mechanism being electrically interconnected with a first one of separable contacts. Furthermore, Krasser et al. does not teach or suggest any such electrically conductive support mechanism, which supports an operating mechanism within the context of Claim 21.

It is not clear which pair of contacts of Krasser et al. the Examiner construes to be "separable" within the context of Claim 21. The movable contact bridge 13 is separable from the contact points 16,17 of the respective fixed contacts 14,15 of Krasser et al. Hence, if the Examiner selects either: (1) contact bridge 13 and contact point 16; or (2) contact bridge 13 and contact point 17 as being the recited separable contacts of Claim 21, then, in either case, Kramer et al. does not teach or suggest a first terminal electrically interconnected with a first one of *separable* contacts and a second terminal electrically connected to a second one of such *separable* contacts.

It is submitted that Yu, which discloses one bimetal leg connected to a terminal plate 25 and another bimetal leg connected to a first end of a conduct plate 60, adds nothing to Krasser et al. regarding any electrically conductive support mechanism mounted in a housing and supporting an operating mechanism, with a first leg of a bimetal engaging and being electrically connected to such support mechanism, and with such support mechanism being electrically interconnected with a first one of separable contacts.

Accordingly, it is submitted that Claim 21 patentably distinguishes over the references.

The prior art made of record and not relied upon but considered pertinent to Applicants' disclosure has been reviewed. In summary, it is submitted that the claims are allowable over the references of record.

Reconsideration and early allowance are requested.

Respectfully submitted,



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**MARKED UP SPECIFICATION UNDER 37 CFR 1.121(b)(1)(iii)**

This application is related to commonly assigned, concurrently filed United States Patent Application Serial No. 09/845,943, filed April 30, 2001, [    /            ], filed            , 2001,] entitled "Circuit Breaker Having A Movable And Illuminable Arc Fault Indicator"[ (Attorney Docket No. 00-mAE2-283)]; and United States Patent Application Serial No. 09/845,517, filed April 30, 2001, [    /            ], filed            , 2001,] entitled "Circuit Breaker Including An Arc Fault Trip Actuator Having An Indicator Latch And A Trip Latch"[ (Attorney Docket No. 00-mAE2-284)].

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